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LOCAL DIRECTORY

Medical Society Meetings

MARYLAND

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THE MODERN METHOD OF TREATMENT OF DISEASES OF THE STOMACH.*†

By Julius Friedenwald, M.D.,
Professor of Gastroenterology, University of Maryland, School of Medicine and College of Physicians and Surgeons, Baltimore, Md.

When your secretary requested me to present a paper on "The Modern Method of Treatment of Diseases of the Stomach from the Standpoint of the General Practitioner" to your Association, I consented with some reluctance, for I at once recognized the difficult task set before me. The treatment of any disease, especially of the stomach, presupposes a thorough knowledge of the disease at hand, and this is not always a simple matter, for a correct diagnosis is often most difficult, and at times impossible. The treatment follows the diagnosis directly, and most of our therapeutic failures are due to inaccurate diagnoses. It is therefore of the utmost importance to examine all of our patients affected with gastric disorders most thoroughly, and to exercise every precaution to reach correct diagnoses. It is only under these conditions that the treatment may be so instituted as to prove most effective, and of the greatest benefit to the patient.

The specialty of gastroenterology really dates as far back as the beginning of the eighteenth century, when the stomach-tube first saw the light of day. There has been much discussion as to the priority of the discovery of the stomach-tube, and the view has been generally accepted that this instrument is of English origin, and that the two English surgeons, Jukes and Bush, are its inventors. This claim is based on an article by Jukes in the *London Medical Repository* of 1822. He here described an elastic tube one-quarter of an inch in diameter and two and a half feet in length, terminating at one extremity in a small globe of ivory with several perforations, the other extremity being adapted either by screw or plugs to an elastic bottle of sufficient size to contain at least a quart of liquid, and having a stopcock fitted to it.

*Read by invitation at the meeting of the York County Medical Society (Pennsylvania), November 4, 1915.
†Reprinted from the *Therapeutic Gazette*, February 15, 1916.

Instead of the bottle a syringe of an equal capacity could be adapted in the same manner to the flexible tube.

Some years ago, in looking over some old medical volumes, my attention was attracted to the fact that the credit of this discovery is due to Dr. Physick, who published his original paper October, 1812, in "The Electric Repertory," Vol. III, page iii, under the title of "Account of a New Mode of Extracting Poisonous Substances from the Stomach, by Philip S. Physick, M.D., Professor of Surgery in the University of Pennsylvania," which is ten years prior to the appearance of Juke's article. He declares that he employed the tube in washing the stomach of twins three months old who had accidentally been given an overdose of laudanum by their mother. He employed a large catherer for this purpose. One of the children was saved, the other died. Physick states that the idea of washing out the stomach with a syringe and tube in cases in which quantities of laudanum or other poisons had been swallowed occurred to him at least twelve years before, and he had constantly for many years recommended it in his lectures. In the year 1809 his nephew, Dr. Dorsey, practiced lavage in a case, but the patient had swallowed the poison twelve hours before he was called, so that he did not succeed in saving life. But the tube was soon forgotten, and was not generally employed until after 1869, when Kussmaul suggested its use in the treatment of gastric dilatation.

No one who is especially interested in the treatment of diseases of the stomach should fail to read that most important article, "Uber die Behandlung der Magenerweiterung durch eine neue Methode mittest die Magenpumpe," by Kussmaul, in the *Deutsches Archiv für klinische Medicin* in 1869, in which a most ingenious method of treatment laid the foundation for an exact mode of diagnosis in gastric disturbances. In this valuable paper Kussmaul tells of the difficulties besetting the treatment in advanced forms of dilatation of the stomach due to narrowing and closure of the pylorus. "Very exceptionally was it possible to obtain any results in the treatment of this dreadful disease. As a rule it may hardly be possible ever to expect an amelioration of the symptoms, and never possible to produce a cure." Kussmaul, who was director of the Freiburg Medical Clinic, was rather reluctant in admitting to his clinic a country girl, Marie Weiner, twenty years of age, who had been troubled with gastric disturbances for eleven years, and in whom he found a typical example of dilatation of the stomach, produced by stricture at the pylorus due to ulcer. The patient was very pale and emaciated, and so weak as to be unable to leave her bed; she suffered greatly from vomiting of extremely large quantities; from gastric pain, sleeplessness, and attacks of tetany, and was relieved of her suffering only by means of morphine. Kussmaul says: "Often when I observed the patient in the wretched prodromal stage of vomiting the thought had occurred to me that I might relieve her suffering by the employment of the stomach-pump, as the removal of large

masses of decomposed acid gastric contents should cause relief from agonizing burning and retching at once. The introduction of the sound could be performed without difficulty, for where a gastric dilatation has existed for so long a period of time the esophagus is usualy dilated. The artificial emptying of the stomach by the pump could be no more painful or distressing than the condition existing before and during vomiting; at any rate, its effect would be more rapid and complete than the emptying of the stomach by means of vomiting, with its prolonged prodromal stage of nausea, pain, and retching. Often, even after vomiting, palpation and percussion indicated that the stomach still contained considerable masses of contents. This condition reminded me of the so-called ischuria paradoxa, in which large amounts of urine flow daily from the dilated bladder without its actually emptying itself and without reducing its size. By means of the pump it is possible to empty the stomach completely, and, if its elastic and contractile powers have not been entirely lost, perhaps even give to it the tone to contract to a certain degree, as the catheter occasionally brings about recovery in ischuria paradoxa.

"In our patient the gastric dilatation was occasioned by stricture at the pylorus. At the post-mortem examination of cases of extreme gastric dilatation I have repeatedly found that the stenosis which was present would still admit the passage of a small finger from the stomach into the duodenum, although there had appeared to be complete closure of the pylorus towards the end of life. In such cases I had at times observed at the bedside through the abdominal walls active movements of the stomach. It appeared to me as though the excessive distention, the filling and overloading of the stomach itself, produced a mechanical action which increased the constriction of the pylorus to complete closure. I was desirous of removing this condition by emptying the stomach and decreasing its size. Finally, it appeared to me that the use of the stomach-pump would permit a more thorough treatment of the diseased gastric mucous membrane than was ever before accomplished. In the case of our patient this had for 2½ years been constantly irritated by extremely acid contents. The stomach-pump would not only make it possible completely to evacuate these acid acrid masses, but would permit the washing and cleaning of the diseased mucous membrane, which had been irritated by acids with alkaline fluids, as with Vichy water or with an artificial soda solution. The introduction of the stomach-tube, the pumping out, and washing with Vichy water were usually easy. We withdrew three liters of acid, dirty-gray, sarcina-containing fluid, with particles of food of all kinds undergoing softening and decomposition." This was first accomplished on July 22, 1867.

Although most enthusiastic over this new method of treatment, Kussmaul realized its limitations. He recognized that only where slight constriction of the pylorus existed was he able to cure cases of dilatation of the stomach by lavage. In cases of malignant

stenosis of the pylorus and marked cicatrical contraction relief only could be afforded, and not cure. He says: "Naturally, it is impossible to expect a cure of a dilated stomach by means of lavage when the pyloric orifice is narrowed to such an extent that it will hardly admit even as much as a goose quill." It is here that Kussmaul points out the possibility that surgery may at some future day bring relief to these cases, and it is possible, as Fleiner suggests, that perhaps it may have been the inspiration of this remark that led Billroth at a not very distant date to attempt to cure incurable forms of gastric disease by surgical measures. Thus a new method of treatment, this epoch-making work of the great master Kussmaul, furnished the impetus for the study of gastric diseases according to modern scientific methods and led to the stomach-tube, not only as a new method of treatment, but also of diagnosis.

A year later (1870) Jurgenson pointed out the disadvantage of the stomach-pump, as recommended by Kussmaul. The pump is difficult to cleanse, and, in fact, its use is superfluous. Jurgensen here introduces the principle of siphonage into the practice of gastric lavage, which entirely eliminates the use of the pump in this form of treatment. The soft-rubber tube is also here recommended, and Jurgensen fully explains the method of introduction of the stomach-tube, the position to be assumed by the patient, as well as of practicing the siphonage in freeing the stomach of its contents. This contribution must be classed as an advance in the therapeutics of gastric diseases. Jurgensen utilized the rubber tube terminating in a perforated ivory bulb. The bulb was guided by means of wire stylet. Four years later (1875) Ewald called attention to the fact that any rubber tubing having sufficient resistance could be introduced into the stomach without the use of a guide.

While Kussmaul drew attention to the therapeutic value of the stomach-tube, it remained for Leube, at the Rostock Naturforscher Versammlung, in 1871, to point to the value of the stomach-tube as a diagnostic measure.

Twelve years later (1883) Leube established his test meal as a means of determining that a normal stomach should be empty seven hours after the ingestion of a meal of water, soup, steak and bread. It was not long after (1883) that Leube developed his well-known scale of the digestibility of various foods, which he earnestly advocated as a means of diet in the treatment of ulcer of the stomach. He divided the various foodstuffs, according to their digestability, into four classes. This work is most valuable, pointing as it does to the importance of diet in gastric diseases, and marked an advancement in the therapeutics of diseases of the stomach.

From this time on the stomach-tube has been generally utilized, not only for diagnostic, but also for therapeutic purposes, and many modifications of this instrument have been devised. As with all other therapeutic measures, when employed without

proper indications, the use of the tube has often been abused, and on this account has often fallen into disfavor, for lavage has frequently been practiced as a last resort, often after all other therapeutic measures have failed, and without proper indications. The therapeutic indications for lavage are definite. This procedure should be practiced for the removal of decomposing foods and excessive secretions in cases of dilatation due to pyloric or duodenal obstruction, and in cases of fermentation, as is observed in chronic gastritis and in cancer; for the removal of mucus in chronic gastritis, and of excessive acid secretion. It is a most useful and life-saving procedure for the quick extraction of poisons which have been swallowed, as well as in removing the intestinal regurgitations occurring in obstructions of the bowels. In other conditions its use may at times prove beneficial; it then acts often only as a suggestive measure.

Among the modifications of the tube occasionally employed are the gastric douche, gastric spray, and powder-blower. The douche is used for treatment of the mucous membrane of the stomach. It consists of a tube with small-sized apertures, through which a fine stream flows, stimulating the mucous membrane; the fluid employed may consist of Vichy water or a bitter tonic, such as quassia, calumba, etc.

The spray of Einhorn is utilized for the instillation of small quantities of fluid into the stomach. The fluid introduced is usually a solution of nitrate of silver (.1-.2 per cent.), which is employed in certain forms of chronic gastritis and in hypersecretion. Another apparatus of some importance introduced by Einhorn is the intragastric electrode used to apply electricity directly into the stomach.

Usually the intraventricular application of electricity is more beneficial than the extraventricular. The faradic current is especially useful in cases of gastric atony, and in some forms of gastric neuroses. The galvanic current is beneficial in painful gastric conditions, such as in gastralgias and pylorospasm.

DIET IN DISEASES OF THE STOMACH.

In diseases of the stomach the selection of a proper diet is often of more importance than the choice of drugs. No absolute dietetic regulations can be formulated in this class of diseases, but it is important to regulate the food in conformity with the particular disease with which the patient is affected, and also to consider the individual tastes and peculiarities of the patient. Even in the regulation of a diet in any special disease of the stomach, changes are often rendered necessary. These must be made gradually and according to the patient's powers to digest the food.

Food is said to be easily digestible when it produces no gastro-intestinal discomfort, is passed from the stomach into the intestine at a normal rate of speed, and is easily absorbed. Under normal conditions the digestibility of foods is easily ascertained.

for the functions of the stomach being normal, the effect of the food upon the functions can readily be determined; in the various gastric disturbances, however, this problem is more difficult. In determining the diet for a special gastric disturbance two points must be borne in mind: first, the power to increase the nutrition of the patient; and, secondly, the necessity of giving food in a digestible form so as to lessen the work of the stomach. It must be borne in mind that the digestibility of food varies widely with the individual taste, for no matter how digestible a food may be, if it is unpalatable it will not be digested properly. In general it may be said, first, that in acute conditions the food should be of such a character that the stomach should be spared as much work as possible; second, in chronic disturbances it is important to supply sufficient quantities of nourishment in an easily digestible form, so as to maintain the body weight so far as possible. In determining the quantity of food that is necessary during 24 hours, the amount is estimated in calories of heat. As is well known, a human being at rest requires 35 calories per kilo of weight, whereas while he is performing light work he requires 40 calories. In order, therefore, to determine the exact amount of nourishment, it is only necessary to know the weight of the individual. Inasmuch as the proteins can be replaced in a measure by the carbohydrates and fats, an interchange of any of these three food elements can be made according to the patient's condition. When the weight of the person is known, it is an easy matter to determine whether the amount of nourishment given is sufficient to maintain the body weight.

It is well also to weigh every patient suffering with a stomach disorder when treatment is first inaugurated, and to repeat this from time to time, in order to determine whether the patient is gaining or losing flesh.

The diet must be considered from the standpoint of the gastric secretion; there may exist, on the one hand, the condition of oversecretion of acid, and, on the other, lessened secretion or absence of acid.

In cases of oversecretion an abundant protein diet is indicated, inasmuch as the excess of hydrochloric acid is neutralized by this class of foods. Ordinarily, the proteins that are best adapted for patients suffering from oversecretion of acid are the red meats and eggs, whereas the carbohydrates must be given in the most easily digested form.

In cases in which there is a diminution of the gastric secretion the protein foods are digested with difficulty, whereas the carbohydrates are more easily digested. In this condition, therefore, only very tender meats, preferably scraped, are to be given; whereas such easily digestible vegetables as spinach, mashed potatoes and farinaceous foods may be eaten in quite large quanties. In both conditions of increased and diminished secretion of acid a reasonable amount of fat must be eaten, preferably in the form

of good butter. The diet in muscular disturbances of the stomach depends greatly upon whether an excess or a deficiency of gastric juice is secreted; if there is an increase, an excess in protein food gives the best results; if, on the other hand, there is a diminution of this secretion, protein food must be given the patient in the most easily digestible form. The carbohydrates and the lighter vegetables may be given in somewhat larger proportion. In both conditions the ingestion of fluids should be reduced as far as possible. Normally, the appetite is a fair indication of the number of calories of heat that may be required; in conditions of gastric disorder, however, this is not the case; these patients lose their appetite, and consequently often take insufficient food. In those instances in which the gastric disorder is somewhat protracted and accompanied by great loss of weight, and in which the patient takes insufficient nourishment, it need only be remembered that such a patient resting quietly in bed requires quite a number less of calories than a patient who is not resting. This plan is therefore often taken advantage of in the treatment of many patients suffering from disorders of the stomach.

SPECIAL FACTORS BEARING ON THE DIET IN PATIENTS SUFFERING FROM GASTRIC DISTURBANCES.

1. Von Noorden demonstrated the fact that the intestine will vicariously perform the work of the stomach in conditions in which the secretion of the latter is lost. The point to be borne in mind is that even in cases in which the secretion of the stomach is lost entirely, the intestine may assume this function of the stomach.

2. In those cases in which it is necessary to spare the stomach, as when food cannot be digested or is vomited, either predigested foods may be utilized or foods may be administered through channels other than the stomach.

3. The following rules for eating should be carried out:

(*a*) Food should be thoroughly masticated; this is especially important in those cases in which there are marked gastric disturbances.

(*b*) The meals should be taken at regular intervals and in moderate quantities, according to the nature of the gastric disease.

(*c*) The temperature of the food is also an important factor in the treatment of gastric disturbances; as Uffelmann has pointed out, the food should be taken at a temperature between 98° and 100° F. The ingestion of very hot food is believed to be a frequent cause of ulcer, and, as Mayo has recently pointed out, a factor in the production of cancer of the stomach. On the other hand, Wegele attributes the dyspepsia of many Americans to the taking of ice-cold water and other cold drinks.

(*d*) The question of rest or exercise after eating is one that is of considerable importance to those suffering from gastric disturb-

ances. It is generally admitted that violent exercise should not be indulged in after eating.

From my own observations, it appears that in conditions of gastric disturbances accompanied by increased or decreased acidity, and in muscular disturbances of the stomach, the gastric digestion is improved during rest, but impaired by sleep after meals.

Among the special forms of treatment recommended in gastric disturbances may be mentioned the rest cure, first devised by Weir Mitchell. This treatment is especially useful in cases of nervous stomach disorders. It is also useful in the treatment of ulcer, gastritis and other conditions. The rest treatment in gastric disorders should be carried out for a period of from six to eight weeks. The patient should be confined to bed a large part of this time and given a varied diet, food being supplied every two to three hours. Boas advises that instead of the large quantities of milk usually prescribed, the patient will do better if given ½ to 1 liter of cream daily in portions of 150 to 200 cc. In addition to the protein food he advises a diet rich in carbohydrates and fats. Constipation may be overcome in most instances by the addition of such foods as honey, preserves, buttermilk, kumiss and kefir. The results that follow this plan of treatment are often marvelous. In referring to the question of diet, I cannot pass by this subject without touching upon the question of the use of Bulgarian buttermilk, of recent introduction in America, but long used in the Orient. The importance of this form of milk, and its high nutritive value, was first recognized by the Bulgarian physician, Grigoroff, and more recently by the French physicians. It contains three forms of bacteria, the most important one being the bulgaricus, causing the acidulation of the milk. The organism produces a fermentation of the sugars and causes the coagulation of the milk, forming lactic acid. The Bulgarian buttermilk is exceedingly digestible, due to the fact that its casein and ablumin are rendered soluble. Metchnikoff ascribes a life-prolonging effect to this milk, due to the fact that in Bulgaria, where this form of milk is employed as a regular article of diet, there are many individuals above 100 years of age.

There can be no question but that the decomposition effect in the intestine is favorably affected by the Bulgarian milk. Tablets containing the Bulgarian bacilli are detailed by various pharmaceutical establishments and have been highly recommended. Another food employed in recent years to a very large extent in the treatment of gastric disorders is olive oil. This substance has been most satisfactorily used in the treatment of ulcer and other gastric disorders, and is of great value both as a food and as a remedy.

In this connection I must call your attention to an oil recommended in the last few years by Lane—paraffin oil, a mineral oil, which is now very largely employed with most beneficial results

in the treatment of intestinal stasis. This oil is not a food, however, as it passes unchanged through the intestinal tract.

Certain advances have been made in the medical treatment of ulcer of the stomach in the past few years. According to the older plan, the Leube treatment was almost constantly followed. This consists of placing the patient at complete rest in bed for 14 days or more, upon liquid diet, mainly of milk. Upon such a diet the patient frequently loses much flesh as well as strength.

On this account Lenhartz cautions against the strict abstinence diet in the treatment of ulcer of the stomach, even in those instances in which there is hemorrhage. He bases his conclusions on the fact that since ulcer of the stomach is most frequently accompanied by superacidity and also by an enfeebled condition, it is best to give protein food early to overcome the acidity as well as to build up the system.

In the Lenhartz cure, absolute rest in bed for at least four weeks is maintained. An ice-bag is placed on the abdomen, and left on more or less continually for two weeks. On the first day, even though there be hematemesis, 200 cc. of iced milk are given in teaspoonful doses, together with two raw, ice-cold, beaten-up eggs.

The eggs are beaten up with sugar, and they are kept cold by placing the cup containing them in a dish filled with ice. The milk is increased every day 100 grammes, and one additional egg added; on the ninth day the patient is given 1 liter of milk, and the quantity is not increased; on the sixth day raw scraped beef is added, and the quantity is doubled on the following day; on the seventh and eighth days the patient is given some well-cooked rice and zwieback (softened); and on the tenth day raw ham and butter.

Only recently Sippy has evolved a method of treating peptic ulcer which seems likely to replace all other methods of treatment. The treatment consists in protecting the ulcer from the acid corrosion until it has healed, by shielding it from the corrosive effect of the gastric secretion.

He accomplishes this by maintaining a neutralization of all free HCl from early in the morning until late at night. This is effected by frequent feedings and the use of alkalies given frequently. The patient remains in bed for three to four weeks. Three ounces of a mixture of equal parts of milk and cream are given every hour from 7 A. M. to 7 P. M. After two or three days soft eggs and well-cooked cereals are gradually added until in 10 days the patient receives three ounces of milk and cream mixture every hour, three soft-boiled eggs and nine ounces of a cereal each day. Cream soups of various kinds, vegetable purées, and other soft foods may be substituted now and then as desired. Powders of magnesia and soda and bismuth and soda are given between the feedings to neutralize the acid secretion. The details of the treat-

ment can be found in a recent number of the *Journal of the American Medical Association.*

I have been employing this method in the treatment of a large number of cases of peptic ulcer with most gratifying results.

Of the greatest importance in the treatment of certain cases of ulcer is the method devised by Einhorn, known as duodenal alimentation. By means of this method food can be introduced directly into the duodenum. The instrument employed consists of a small capsule perforated and attached to a long rubber tube, at the other end of which a syringe can be applied. The tube is swallowed while drinking water, and the instrument soon passes into the stomach, and within an hour or two into the duodenum. Care should be taken to see that it is in place before the feeding is started. This may be done by gentle traction, which shows a slight resistance if the tube is in the duodenum; by aspiration, which will often bring up golden-yellow duodenal juice without any gastric secretion: or, perhaps best, by giving the patient some liquid to drink by mouth and immediately performing aspiration. If the end of the tube is in the stomach, the fluid can be removed. Any liquid food may be employed, but mixtures of milk-sugar and raw eggs are the most useful. Care should be taken to see that there are no particles in the food that might clog the tube. The amount at the beginning should be small, 100 cc. every two hours, beginning early in the morning and stopping late in the evening. This quantity may be gradually increased up to 300 cc. If eight feedings are given in 24 hours and each feeding consists of 280 cc. of milk, one egg and one tablespoonful of sugar of milk, the patient will receive approximately 2280 calories, which is ample for an average individual, and if the patient is at rest in bed it is sufficient to allow a gain in weight.

Einhorn has perfected a special syringe, with which it is possible to administer the food without disconnecting the tube. Morgan has suggested a method like that of Murphy for giving salt solution per rectum, permitting the fluid to flow from an irrigating jar, and so arranging the pet-cock that the food is taken slowly, the 300 cc. of nourishment taking about 25 minutes. The food should be administered at body temperature and the heating should be done slowly, for if if becomes too hot it is liable to become thick and lumpy. After heating, it is well to strain the food to be certain to have it free from small particles. If the food is used too warm or too cold it is apt to cause uncomfortable symptoms, sometimes causing the patient considerable shock; a too rapid administration causes flatulence. After each feeding a syringeful of water at 98° F. should be injected, then the pet-cock closed and the syringe filled with air, which should be injected after the pet-cock has been opened; the pet-cock should then be closed and the syringe disconnected. This procedure is very important, and serves to keep the tube clean and empty.

Of the many remedies employed in the treatment of the various

gastric disorders there is one of unusual importance, as it appears to have an almost specific effect in certain condition. The drug is atropine, which by depressing the vagus fibers decreases the secretory and motor functions of the stomach. Through the researches of Eppinger and Hess, the theory has been advanced that disturbances of the autonomic nervous system (which includes all of the efferent nerve fibers outside of the cerebrospinal axis excepting those supplying the voluntary muscles) lead to increased and decreased tonus or excitability, and that through this system the activity of the glands of internal secretion are regulated and controlled. According to this theory, therefore, a gastric ulcer may have as its underlying basis an increased vago-tonus, and atropine by depressing this vagus excitability decreases the possibility of gastric irritation. Clinically it has frequently been noted that healing has been effected in obstinate cases of gastric ulcers when patients were systematically treated with atropine or belladonna.

A word might be said concerning the administration of hydrochloric acid, which has been always regarded as an efficient remedy in the treatment of certain forms of gastritis. It is a well-known fact that when taken internally hydrocloric acid has the power to stimulate the secretion of the gastric ferments. This is occasioned by the action of the acid on the pylorus, producing a secretion which when absorbed again stimulates the gastric secretion. It is also well known that when hydrochloric acid is administered it directly stimulates the gastric secretion of hydrochloric acid of the diseased gastric mucous membrane, and also awakens in the gastric mucous membrane the power to produce further acid on the ingestion of food. Hydrocloric acid is best administered after food by giving small doses at 10, 15, 20 and 30 minutes later, thus in a way imitating the natural process of digestion. The proper digestion of food cannot be obtained from hydrocloric acid alone; pepsin must be present at the same time.

Up to a comparatively recent period it was generally held that the administration of pepsin was needless, for it was assumed that the minute quantities needed for proteolysis were present in the stomach. However, it is now known that in order to procure good gastric digestion it is necessary to have both the hydrochloric acid and pepsin thoroughly mixed. This is not thoroughly accomplished when hydrochloric acid is given alone, and pepsin should be administered at the same time; it is also quite useless to prescribe pepsin alone. Hydrochloric acid aids the intestinal digestion, inasmuch as proteids which have been acted on by hydrocloric acid and pepsin are much more easily digested by trypsin; in addition this acid acts upon some precursor in the duodenum producing an intestinal secretion, which, being absorbed, stimulates the flow of the pancreatic secretion.

MECHANICAL SUPPORTS.

I must call attention briefly to the mechanical therapeutics, consisting mainly of the abdominal support in the treatment of

enteroptosis. This apparatus is employed in supplying a support to the relaxed abdominal wall and in holding the organs as far as possible in position. The beneficial effect of this apparatus is effected by relieving the symptoms arising from the pressure of the abdominal organs. The supports consist of bandages and corsets. The number of apparatus of this character is almost innumerable, almost every specialist having a bandage or corset furnished to conform with his own views. It is not always a simple matter, however, to supply a well-fitting bandage or corset. In a stout individual with a pendulous abdomen this is not usually a difficult matter, but in thin individuals there is often great difficulty in adjusting a support which actually holds the organs in proper position.

The need of a support is quickly indicated by means of the Glénard's belt sign. One stands back of the patient, passing one's arms on either side with both hands on the lower abdominal walls. The abdominal flesh can easily be elevated; by suddenly dropping the hands the abdominal mass may be allowed to fall. If the symptoms have been relieved by the support of the hands and return by their removal, there is every indication for the need of an abdominal support or corset.

MINERAL-WATER CURES.

Mineral-water cures have been utilized for many years in the treatment of certain gastric disorders, and yet notwithstanding the fact that these cures are among our oldest methods of treatment, we know but little regarding their actual physiological effect. Our knowledge concerning their action is wholly empirical and their use must therefore be entirely based on purely clinical evidence. It is well known that the effect of the water is far better when taken at the springs. This may be partly due to the fact that the beneficial effect is augmented by the healthful surroundings, freedom from care, the rest and diet. The fact that many of these waters, as has been recently discovered, are radioactive may also account in a measure for their beneficial effect, and inasmuch as this radioactivity is largely lost in transportation, for their failure in giving relief when taken away from the springs.

INDICATIONS FOR SURGICAL INTERVENTION.

One cannot pass by the question of the treatment of gastric disorders without at least alluding to a few facts regarding the surgical aspect of these conditions.

The newer surgery of the stomach was introduced with Billroth's successful pyloric resection for cancer, and Wölfler's gastroenterostomy in 1881. Since that time there has been a steady advancement in the results of surgery, many so brilliant that operation has often been undertaken as a cure for all forms of indigestion; the results of which have often been dismal failures, increasing rather than relieving the patient's discomfort. At the

same time indiscriminate surgery has had a distinctly harmful effect in the advancement of surgery of the stomach. However, when the indications for surgical intervention are present, the results of surgery are most brilliant and gratifying.

The indications for operation on the stomach are as follows:

1. Obstructions, whether at the cardiac or pyloric orifices. Gastrostomy is indicated in impermeable strictures of the cardiac orifice or of the esophagus, and gives great relief until the stricture can be dilated; it prolongs life in cases of carcinoma of this region. Operation is always indicated in obstruction of the pylorus, whether the obstruction be due to simple pyloric stenosis or due to cancer. In cases of benign obstruction, the operation indicated are pyloroplasty, gastroenterostomy or pylorectomy; in malignant disease pylorectomy is indicated for cure and gastroenterostomy for relief.

2. Gastric ulcer. Simple uncomplicated gastric or duodenal ulcers do not require operation. Operation must only be considered when there are complications or when the ulcer has resisted a thorough medical cure.

The indications for operation are perforation, pyloric obstruction and ulcers defying thorough medical cures. The surgical procedures which may be undertaken are excision of the ulcer, pylorectomy, pyloroplasty or gastroenterostomy. The exact procedure to be followed must be determined by the surgeon at the time of the operation.

3. Gastric carcinoma. There is but one cure for cancer of the stomach, and that is operation. This can be accomplished only, however, when the diagnosis is made early. Inasmuch as early diagnosis is usually most difficult and often impossible, it is wise to urge upon all individuals over 40 years of age who manifest symptoms of indigestion which are not relieved by a few weeks of treatment the need of a most critical examination, and if the diagnosis still remains doubtful, of exploratory incision. It is by this method alone that cases of carcinoma of the stomach can be determined early, and at that stage when cure is still possible; otherwise the operation can only be in the nature of relief—gastroenterostomy for relief of obstruction—but not of cure.

I have outlined as far as it is possible in this brief period of time the modern method of treatment of the diseases of the stomach, and I must again emphasize what I attempted to point out at the beginning of this paper, namely, that the treatment is exceedingly simple if the diagnosis be correctly made. It behooves us, therefore, to study our cases most carefully and critically, so that we may become confident, as far as it is possible, of the correctness of our diagnosis; the treatment follows the diagnosis directly, and can therefore easily be outlined. It is only in this manner that we can secure the very best results.

THE TREATMENT OF ACUTE ARTICULAR RHEUMATISM.*

By Albert H. Hoge, M.D.,
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For more than a century rheumatism has been a mother to all the aches and pains of the human body which could not be otherwise classified. In the past decade, owing to our ability to better diagnose diseases, she has had torn mercilessly from her many of the diseases that were once thrust upon her without a protest. Today we view her with a feeling of pity in her last and farewell fight against medical science, knowing full well that in a few more years she will have passed to her reward and her remaining family more intelligently classified.

Alfred Mantle in 1887 was the first man to offer the germ theory of rheumatism, and as a result he was almost laughed out of the profession, but, like many other great men, it was necessary for many years to elapse before his real greatness was appreciated.

Authorities agree that acute articular rheumatism, or infectious arthritis, is an infectious disease, due to one or more specific organisms, and particularly those belonging to the streptococcic specie.

In order not to make this paper too lengthy, I have confined myself to that form of rheumatism due to the above-mentioned germs. These organisms are most frequently found in the tonsils, diseased teeth and nasal sinuses; less frequently in the gall bladder, appendix and kidneys. "Why these particular germs should behave in any such manner, which is very different from their natural activities, is best explained by the modification they undergo as a result of their residence, repeated reproduction in and passage through the tissue in which they were originally lodged, which affords them prolonged periods of incubation and supply the very conditions which would be most likely to produce modification of their primary characteristics and virulence."

Every person suffering with acute articular rheumatism has somewhere within his body a depot that is constantly sending out through the circulation quantities of germs to reinforce those being destroyed. Our first step when called to treat one of these cases should be to try to locate the point of original infection. In making this examination we should be very thorough and exacting, because the success of our treatment depends entirely on our finding the focus. Do not allow any person's denial of venereal infection or his social or religious affiliation to influence you.

Medicine is a help in treating this disease; diet is very important.

*Read before the Mercer County Medical Society of West Virginia, August 17, 1916.

baths and other remedies to make the patient comfortable are all very useful, but they must be considered of secondary importance in the cure of this disease. It has long been the custom to treat these cases with salicylates. This idea originated many years ago, when the disease was thought to be due to faulty metabolism and uric and lactic acids were supposed to play prominent part in its production. We were taught until a few years ago that these drugs would prevent the many complications that accompany rheumatism, and a few men still believe this. I want to state that I do not believe they will do it. The salicylates will relieve the pain of infectious arthritis, will reduce the fever, and also aid in the elimination of the toxins produced by these germs by increasing the activity of the liver and kidney cells, but they will not cure it nor will they prevent any complication.

In support of this claim regarding the action of this drug, I wish to report to you a series of experiments conducted by Dr. David John Davis of Chicago and reported in the *Archives of Internal Medicine*, in which a number of rabbits were inoculated with the serum taken from the joint of a patient suffering from acute rheumatism. Some of the rabbits were given five-grain doses of salicylate of soda previous to and a dose each day following the inoculation, while an equal number were given nothing at all. In each series those that had the salicylate had more complications at death and died sooner than the ones that had no treatment.

The increased activity of the liver and kidneys following the administration of this drug is due to the fact that it acts as an irritant to them. In practically every case of endocarditis coming on during the attack of rheumatism in a patient taking the salicylates in full dose the complication developed during the height of the treatment.

Since this has been proven to be an infectious disease, due to specific organisms, it would seem that an autogenous vaccine made from the particular strain of bacteria causing these symptoms would, indeed, afford us an ideal treatment, but unfortunately in practice the results are not always so gratifying as the laboratory man would make us believe. No one, unless he be well trained in laboratory methods and surgical technique, is competent to secure an uncontaminated culture in the average case, even though he has isolated his focus. This, I believe, is the cause of more failures with the autogenous vaccine than anything else; therefore the many difficulties in the way of obtaining these, owing to the inaccessibility of the original focus and the great danger of entering the affected joint, make them most impractical, if not impossible, in treating this disease, so far as the general practitioner is concerned. It is, therefore, my desire in presenting this subject, to call your attention to the value of the stock vaccines. Theoretically these preparations are inferior to the autogenous form, but practical demonstrations show them to be the equal, if

not superior. The fact that they require no special technique nor skill and symptoms can be controlled and many of the complications prevented before the autogenous vaccine is available is a very distinct advantage that must be considered.

My experience has been mostly with the phylacogens. I do not claim that they are any better than some others on the market. The fact that I have used them so long and better understand their administration probably accounts for the better results. Still, in consideration of the results that have already been obtained, I feel that the treatment of infectious diseases with vaccines is merely in its infancy. We as general practitioners are the ones who see the cases, and it is up to us to help develop this branch of medicine. The medical men in larger cities who have numerous assistants in the laboratories do not use stock vaccine, because it is not necessary. We cannot, therefore, expect aid from them, but if we will only work hard and faithfully in a few more years we will be able to buy on the market biological preparations just as accurate and as scientific as can be made. In treating an infectious arthritis the phylacogen seems to do all that could be expected. They will give you such beautiful and rapid results that I often wonder how any man could longer entertain doubts about their action.

I have had failures in using them, but in every instance have been able to prove that the cause of failure was due not to the phylacogen, but to my error in diagnosis. Now, in doubtful cases I always use them, knowing that if I fail to get results, it is very probable that the case is not one of infectious arthritis.

Recently I had under my care a physician's son with the following history: At the age of six years had a severe attack of acute articular rheumatism, which lasted for eight weeks. He had complete relief for three years, then he developed it again in both knees and hips. This had existed and been treated for three years. At times his knees would swell to double their normal size; his suffering was intense, and would at times be confined to bed for weeks. His tonsils had been removed one year before, with no benefit whatever. For the three past winters he had spent about half the time in bed, but during the warm weather would improve. His urine was perfectly normal. I gave him rheumatism phylacogen for some time with no improvement whatever. In fact, I believe he was worse afterwards than before he took the treatment. I had his blood examined one day, and, much to my surprise, it was reported full of malarial organisms. This boy had never had a chill nor shown any other symptoms of this disease. He soon got well under proper treatment.

I mention this case to demonstrate to you how very careful we must be in making a diagnosis of rheumatism, and how very painstaking we should be in locating the causative factor. No man is justified nor should he ever be willing to discard a remedy that offers relief to a suffering patient simply because he has failed

to get results, while many others have succeeded. Under such circumstances it is better, I believe, to place the blame, not on the remedy, but where it belongs.

Another thing we have discovered in a great many cases is that in addition to the general reaction following the administration of a dose of phylacogen there is also a distinct local reaction, and this oftentimes is a very valuable aid in obscure cases in definitely locating the original point of infection.

Practically all physicians look at the tonsils the first thing when called to treat one of these cases, and if they are at all enlarged, advise their removal, which, as a general rule, is correct, but it is best not to be too sure in promising the patient relief, because oftentimes the obvious focus may not be the specific one. While the tonsils may be filled with pus and should be removed, still this infection may be secondary to an unrecognized pus pocket about the root of a tooth, a condition which could only be disclosed by an X-ray.

There has been a great deal written as to the proper time to operate or remove this focus, and the authorities do not agree on this subject because of the danger of increasing the symptoms already present. A great many advise waiting until the rheumatic symptoms have partially subsided or reached subacute stage. Recently I have seen two cases operated upon in which the results were anything but satisfactory.

Case No. 1. A young man, 20 years old, who had an acute attack of rheumatism following a severe case of tonsillitis. He was treated for about four weeks, when he was sent to the hospital for a tonsillectomy. At that time he was suffering very little and was able to walk around everywhere; three days after the operation he went home, feeling well; a few days later he developed a worse attack of rheumatism than he had ever had before and was unable to get out of bed for almost three months.

Case No. 2. Young boy, 11 years old, gave history of a mild attack of rheumatism four years previous. When I saw him this time he had been sick for two weeks; several joints were more or less swollen, but he was able to be up and around the house. His heart was not affected. I found his tonsils and the glands in his neck much enlarged. Had his tonsils removed the next day. I watched him for three days and all of his symptoms were improving rapidly. I was called back to see him the seventh day and found him suffering more than he had ever been, with nearly all of the joints affected. It was with difficulty that he could be turned in bed, and, much to my surprise, he had then a well-marked endocarditis. I started him on rheumatism phylacogen, and in five days he was entirely free from pain and has remained so. After six weeks in bed on account of his heart, I am glad to say there is only a slight murmur, nor does exertion affect his heart. I have hopes that this boy will grow up to manhood and not be a cripple. It was the beautiful result obtained in this case

by the use of phylacogen that caused me to adopt a different method of treatment. I will report two cases illustrating the treatment we now use.

Case No. 1. This lady had one child, three months old. No previous attacks of rheumatism. When I first saw her she gave a history of sore throat one month before, which was followed in a few days with pains in her joints, which grew steadily worse in spite of treatment with various medicines until she was confined to her bed most of the time. She could not wear shoes and had to carry her right arm on a pillow. I brought her to the hospital in an ambulance and started her on rheumatism phylacogen, increasing the dose each day. On the fourth day she was entirely free from pain. On the fifth day I had her tonsils removed, and they were full of pus. Two hours before she went on the operating table I gave her another large dose and kept the treatment up for several days afterwards. She made an uneventful recovery and never had a pain afterwards. This could hardly be called a coincidence, when you consider her symptoms beforehand and see the amount of pus in the tonsils as compared with the two cases mentioned above.

Case No. 2. Little girl, age nine years. Had an acute attack of rheumatism following tonsillitis. She was confined to her bed for several days before phylacogen was given. After four days' treatment her tonsils were removed and the treatment continued as in the above case. She had no return of symptoms afterwards.

This, as you see, makes another distinct advantage in favor of stock vaccines, because you prepared your patient's blood with the anti-bodies to destroy these germs and toxins before they are turned loose into the general circulation, which is always done in making the autogenous form, and it's during the time you are waiting on the laboratory people that you will get many heart complications.

ADMINISTRATION.

It is hardly necessary for me to dwell on the technique of administering this vaccine, except to say that you should always use a sterile glass syringe. I believe pure alcohol is sufficient, if for any reason you cannot boil your syringe. *Site.*—This, in adults, is the best in the arms. Always give it subcutaneously, and never in a muscle. It may be given in a vein, but never give the initial dose that way. The subcutaneous and subareolar tissue seem to possess an unusual power of producing anti-bodies, while if the injection is made into a muscle there is a great deal more pain, greater reaction and probably a lessened anti-body formation, as muscle tissue does not seem to possess the same power observed in the subcutaneous tissue. Intravenous injections are not only dangerous and do not possess any more, but may give a lessened anti-body production; at the same time there is found an occasional case that will not respond to the subcutaneous injection, but will improve rapidly when the phylacogen is given into a vein.

This is a fact well proven, but not understood. If you are dealing with an acute infection due to virulent germs, it is better to give a small dose first and repeat in 12 to 24 hours, gradually increasing the amount. In chronic conditions, the initial dose should be larger and the interval between doses should be from two to six days.

Book Reviews.

PREPAREDNESS. The Nation's Armament. The Doctor's Armamentarium. Jersey City: Reed & Carnrick.

The well-known and highly-respected pharmaceutical firm of Reed & Carnrick have just issued a little monograph on the subject at present uppermost in the mind of every American citizen, namely, preparedness in its broader aspects. Such pamphlets as this are bound to add to the education of the populace of the necessity of being prepared against war. It calls not only attention to the purely military aspects of the subject and the mobilizing of all the forces which must be called into service in case of war, but also the economic factors which play an extremely important role in effecting a successful outcome. It emphasizes that as important as the purely military side of preparedness is, equally so is the economic side. It is a booklet that every citizen of the United States should read, as it deals with a question which must be decided by the nation either for or against, and the decision cannot long be developed, as halfway measures will not suffice. The firm is to be congratulated on its progressiveism in endeavoring to do in their small way something toward making preparedness an actuality.

HARVEY'S VIEWS ON THE USE OF THE CIRCULATION OF THE BLOOD. By John G. Curtis, M.D., LL.D. Formerly Professor of Physiology in Columbia University, in the City of New York. Based on a lecture delivered in 1907 before the Johns Hopkins Hospital Historical Club at Baltimore. New York: The Columbia University Press. 1915. Cloth. $1.50 net.

This work of Dr. Curtis represents a very profound study of Harvey's ideas, and comparison of them with those of the most important of Harvey's predecessors. Though much remains for us to learn before the science of physiology has been completely mastered, and though one thoroughly realizes the difficulty incident to the proving of each new discovery, one can hardly comprehend the difficulties which beset Harvey until one reads the book of Dr. Curtis. The ancients had only the slightest conception of physiology, and it was not until Harvey published his observations that physiology began a rational existence. Har-

vey's greatest contribution to the medical sciences was the discovery of the circulation; but he also speculated much concerning other problems of physiology: namely, the cause of the heart-beat; what produces the bodily heat, etc. Harvey's publications first put physiology upon a sound basis, and was the beginning of physiology as we know it today. Though he failed in establishing the proper reason for many of the problems which confronted him, modern physiology is indebted to him more than most of us today realize. The little secrets which he wrung laboriously out of nature were the foundations upon which his successors builded so magnificently, and it is as a reminder of the debt of gratitude that physiologists owe Harvey that the above-mentioned book principally impresses us. It is well in these days of utilitarianism to stop and pause and be brought back occasionally to a realization of our indebtedness to past generations. Physiology, as all the other sciences, was brought to its present state of perfection by the zealous efforts of a host of self-sacrificing scientists. This thought constantly pops up as one reads Curtis' exposition of Harvey's contributions on the circulation of the blood.

Painless Childbirth, Eutocia and Nitrous Oxid-Oxygen Analgesia. By Dr. Carl Henry Davis, Associate in Obstetrics and Gynecology, Rush Medical College, in Affiliation with the University of Chicago; Assistant Attending Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago. Cloth, $1.00 net. Chicago: Forbes and Company. 1916.

Childbirth should be made as comfortable as consistent with the interest of the mother and child. Any suggestions which tend to accomplish this event is indeed not only of interest to the profession, but also to the laity. Certainly any book which attempts to thoroughly discuss the various methods of securing painless childbirth is novel. This distinction belongs to Davis' book. Recognizing the need of relieving pain in many cases of childbirth, also that the twilight sleep is not without serious limitations, Dr. Davis offers a method which should receive the serious attention of every physician engaged in midwifery; namely, the nitrous oxid-oxygen combination. In his hands this method has worked admirably, and as a result of his experience and belief in its efficacy he now offers a detailed account of the manner in which he has employed it. More and more nitrous oxid-oxygen is coming into favor as a general anesthetic, and there is no reason why it should not be employed to alleviate the pangs of childbirth. It has proven its utility in the hands of Davis; we believe the future will find it more generally employed. It is much safer than the other means by which pain is controlled; consequently, when the way of administering it is better understood, will find more and more employment. Every physician should, at any rate, acquaint himself with the contents of the

above-mentioned book; in doing so he will quicken his interest in midwifery. When the profession comes to a realization that more women die in the United States in a year from puerperal sepsis than from tuberculosis one will only then appreciate the importance of such books as Davis'.

A Synopsis of Medical Treatment. By George Cheever Shattuck, M.D., Assistant Physician to the Massachusetts General Hospital. Second Edition, Revised and Enlarged. Boston: W. M. Leonard. 1915. Price, $1.25.

Surely the methods of treatment applied in the Massachusetts General Hospital cannot help but be instructive to the medical man wherever located. What adds to the value of the book is the brevity with which the author lets one into the secrets of the treatment of such conditions as cardiac insufficiency, nephritis, acute infectious diseases, as applied at the Massachusetts General Hospital. In every instance the treatment suggested, even if not approved by the reader, is sound. Besides, they have been given the iron test of fire and have not been found wanting. Exhibiting the qualities of brevity, clearness and soundness, it should prove as desirable to the general practitioner as ever.

Bone-Graft Surgery. By Fred H. Albee, A.B., M.D., F.A.C.S., Professor of Orthopedic Surgery at the New York Post-Graduate Medical School and the University of Vermont; Visiting Orthopedic Surgeon to the New York Post-Graduate Hospital and Blythedale Hospital; Consulting Orthopedic Surgeon to the Mary Fletcher Hospital, Burlington, Vermont; Sea View Hospital, New York; Muhlenburg Hospital, Plainfield, New Jersey, and Waterbury Hospital, Waterbury, Conn.; Member of the American Orthopedic Association; Corresponding Member of the German Orthopedic Association, etc. With 332 illustrations, three of them in colors. Philadelphia and London: W. B. Saunders Company. 1915. Baltimore: The Medical Standard Book Company. Cloth, $6. Half Morocco, $7.50 net.

Surgeons by this time are all aware of the important work being done by Doctor Albee in bone-grafting, but, heretofore, his contributions have been so scattered that it is with more or less difficulty that one has been able to reach them when desired. This has now been obviated by the appearance of his views under the above caption. Starting out with the fundamental principles underlying the use of the bone graft in surgery the author then launches into the technic of the methods in bone grafting which have proven most efficacious in his hands and the conditions calling forth bone grafting. Bone grafting is based on the principle that cellular elements under favorable conditions are capable of retaining their viability after being detached from the living

organism. This viability varies with the individual tissue, as the higher the development of the cell and the richer the tissus is in blood vessels the less likely is it to survive. Therefore, the most favorable tissues for grafting purposes are the simpler connective tissues, such as bone, fat, fascia, etc., which are endowed with the capacity of extracting nutrition from the soil into which they are planted and at the same time are able to regenerate so that the portion of the graft which disintegrates is replaced. Bone has been successfully transplanted since 1809, when Merrem obtained successfully healing of bone plates in the skulls of animals after trephining. Autogenous grafts are by far the most trustworthy. With primary union and in the absence of infection, autogenous grafts, properly contracted, are always successful, and even infection does not necessarily indicate failure. The vegetative capacity of the bone cell is as great as that of the epithelial cell. We are of the same opinion of the writer, that the exact histological role which the bone graft plays is, fortunately, immaterial to its clinical usefulness, whether it serves as an osteoconductive scaffold or as an active osteogenetic force. The book opens with a thorough discussion of the underlying principles necessary for successful bone grafting, then passes on to the bone graft in Pott's disease, and other lesions of the spine, the inlay bone graft in the operative treatment of fractures, the inlay bone graft for fixation of tuberculous knee-joints, etc., etc. It is an admirable treatise on a comparatively new subject, fully illustrated and full of helpful suggestions. Every progressive physician should not be satisfied until he possesses a copy of this book.

International Clinics. A Quarterly. Edited by H. R. M. Landis, M.D., Philadelphia. Volume I. Twenty-sixth Series. Philadelphia and London: J. B. Lippincott Company. Cloth, $2 net. 1916.

We note a change in the editorship of International Clinics, and from the appearance of this issue bespeak for the present editor as great success as that enjoyed by his predecessor. Herein are a number of articles devoted to medicine, neurology, public health, diagnosis, pathology and general surgery. Each and every one has been especially selected for the class of readers which International Clinics reaches. There are a few well-chosen words on chorea, including a new treatment, drug therapy in cardio-vascular diseases, pellagra, the wounded mind, the relation of the practicing physician to public health administration and the registration of birth and deaths, prolapse of the genital organs in women, the management of inevitable abortion, the non-operative treatment of fractures of the long bones, etc., all of which articles should prove intensely useful to general practitioners of medicine in enabling them to keep abreast of modern medical thought.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, NOVEMBER, 1916

ANTERIOR POLIOMYELITIS.

IN the January issue, 1911, of this JOURNAL this subject was treated editorially, and at that time we called attention to the fact that Flexner and Lewis in the United States, Roemer in Germany, Leiner and Wiesner in Austria, Landsteiner and Levaditi in Paris, and others, had thoroughly demonstrated the infectious nature of this trouble. We also called attention to Bryant's observations, which led him to believe that this disease was not only infectious but also contagious, and that the contagion emanates from the naso-pharyngeal secretions. Since this time, in 1913, Wickman's report of the Swedish epidemic of 1905 showed that acute polyiomyelitis was conveyed from person to person, and he indicated that healthy persons may act as carriers.

Flexner in the *American Medical Journal* of July 22, 1916, has very clearly summed up our present knowledge concerning this disease and drawn certain deductions of practical importance, and it would appear to us at the present time, although the spread of the disease seems to be on the wane, that some of his conclusions and deductions are extremely pertinent, in view of the fact that there are always with us some cases of this disease. As the result of his investigations he has come to the conclusion, and this conclusion is confirmed by many other investigators of this subject, that this disease is caused by a minute filterable micro-organism, which has now been secured in artificial culture and which is distinctly visible under the higher powers of the microscope. That this micro-organism invades the brain and spinal cord, meninges,

lymph glands, mucous membranes of the nose and throat, the gastro-intestinal tract, and less frequently other internal organs, but up to the present time it has not been detected in the general circulating blood.

The micro-organism of this disease is found almost constantly in the excretions of the naso-pharynx and in the stools of individuals suffering with the disease, and in the stools of many of those who have been in intimate contact with cases of anterior poliomyelitis; it escapes from the body in the secretions of the nose, throat and intestines; it survives in the dark and dim daylight; is resistant to moderate heat, cold, drying and the weaker chemicals which kill other bacteria, but is rapidly killed by bright sunlight and hydrogen peroxide. The infected naso-pharyngeal secretions and intestinal discharges, by becoming dry and being converted into dust, may be widely spread and become a serious source of infection.

It has also been shown that the ordinary domestic fly may become contaminated with the virus contained in the excretions of the body, remain infective for 48 hours or longer, and thus serve as an agent for the transportation of the organisms, either directly to persons or by contaminating food or clothing. Insects seem to be excluded as active agents in the dissemination of the disease, but may very readily act as mechanical carriers of the micro-organism of poliomyelitis.

The most usual method of conveyance seems to be by human beings. This may include individuals who are ill with the disease; who have recovered from the disease or who have been in attendance or in close contact with affected persons. As there may occur many mild cases and abortive forms, it is almost impossible to tell how numerous this source of contamination may be in any epidemic. It is also a fact that these apparently healthy carriers rarely themselves fall ill of the disease. The disease may also be conveyed by flies, and possibly other insects, which become contaminated with the virus and act as mechanical carriers. Food, clothing, etc., may also be contaminated and convey the disease.

At the present time it would, therefore, appear as if the micro-organism is conveyed either directly or indirectly from a source of infection to a susceptible individual where it comes in contact with the naso-pharyngeal mucous membranes; that the organism grows in this situation, enters the central nervous system and is

further disseminated, very likely through the lymphatic system; that it causes pathological changes to take place which vary in extent and severity in different individuals and in different epidemics. In some individuals there are comparatively few symptoms and practically no paralysis; in others meningeal symptoms seem to predominate; in others cerebral; in some bulbar, but in the largest number spinal. In some epidemics the greater number of cases seem to run a mild course with a very little mortality; whereas in others the course is more severe and the mortality is as high as 20 or 25 per cent.

It seems to be the concensus of opinion at the preesnt time that the spread of this disease may be prevented by strict isolation of those affected with the illness and those who come in contact with or care for infected individuals; exercising the greatest care to prevent the dissemination of the excretions of the nose and throat and intestines, as these excretions seem to be the principal source of infection. As insects may be among the possible mechanical carriers of this disease, it is also necessary to prevent insects from gaining access to these excretions, and to exclude flies and other insects from homes and food.

DEATH OF DR. LOUIS McLANE TIFFANY.

As we go to press we are startled by the announcement of the death of Dr. Tiffany, which occurred suddenly on the morning of October 23 at his summer home in Accomac county, Virginia. He had not been in good health for some years, but was able to go around and to indulge in moderate exercise. He spent the past summer in the North, and only recently returned to his home in the city for a few days. Leaving Baltimore about two weeks ago, he anticipated a pleasant sojourn in the country during the autumn. We are informed that he was feeling exceptionally well on the day before his death and was preparing to go fishing the next morning. About 5 o'clock in the morning he was seized with a severe pain in the heart, and soon expired. Dr. Tiffany was an eminent surgeon, whose surgical achievements procured for him both a national and international fame. Although he had retired from the practice of his profession, he was held in high esteem by his medical brethren, and his death will bring sorrow to many friends and former patients.

Medical Items.

A LIMITED number of physicians is required for steamers plying between here and England and the Mediterranean. If interested, communicate with Furness, Withy & Co., Newport News, Va.

THE meeting of the Baltimore City Medical Society was held on Saturday, October 21, at 1211 Cathedral street. Dr. E. A. Codman of Boston, Mass., delivered an address on "Hospital Organization and the Following-up System," and Dr. T. S. Cullen of Baltimore delivered an address on "The Making of Books."

THE members of the Society of Clinical Surgeons met in Baltimore on Friday and Saturday, October 20 and 21. The organization comprises 40 of the most prominent surgeons of America.

GOVERNOR HARRINGTON has reappointed Dr. Hedley V. Carter and Dr. Howard M. Houck members of the State Board of Osteopathic Examiners. They are to serve three more years.

Dr. J. S. Johnson was also appointed as a member of the board to serve two years to fill the unexpired term of Dr. R. J. Northern. Both are of Hagerstown.

DR. FRED RANKIN, University of Maryland, '09, has been appointed to a fellowship in surgery under the Mayo Foundation of the University of Minnesota, and will enter upon service at the Mayo Clinic, Rochester, Minnesota, on November 1.

DR. J. HUBERT WADE, Boonsboro, has been appointed a member of the Penal Board of Maryland by the Governor. This board has control of the House of Correction and the Maryland Penitentiary.

DR. HENRY LEE SMITH of the Medical Reserve Corps, United States Army, who has been on duty as medical examiner in the mobilization camp at Mt. Gretna, Pa., since July, has been appointed camp surgeon.

DR. JAMES J. MILLS, instructor in eye surgery at the Johns Hopkins Hospital, has finished a special assignment for the French Government at Biarritz, and will return to this country in a few weeks. He has spent the past six weeks treating the wounded eyes of French soldiers.

DR. AND MRS. RICHARD GUNDRY of Catonsville spent part of the month of October motoring in the Virginia Valley.

DR. ALFRED W. BROWN, medical supervisor of the Public Athletic League, Baltimore, has resigned, and will later enter the practice of medicine in British Columbia.

DR. AND MRS. J. B. SEBASTIAN, who have spent the last two years in the West, have returned to Baltimore. The doctor will resume the practice of his profession.

DR. W. A. B. SELLMAN of 5 E. Biddle street attended the meeting of the American Association of Gynecologists and Obstetricians at Indianapolis.

DRS. F. P. WELTNER and E. F. Gott, graduates of the College of Physicians and Surgeons, and former internes of Mercy Hospital, have left Baltimore for Bluefield, W. Va., where they will jointly practice medicine. Dr. Gott has specialized in surgery and Dr. Weltner will devote himself largely to treating diseases of children.

DR. ALLEN K. KRAUSE, who will direct the tuberculosis dispensary at Johns Hopkins Hospital, has arrived and taken up his work. Dr. Krause has had charge at the Trudeau Sanitarium, Saranac, N. Y. The tuberculosis work here was provided for by a fund given by Kenneth Dows of New York city.

DR. AND MRS. HUGH BRENT are receiving congratulations on the birth of a son on Monday, October 2, who will be named Hugh Brent Fourth. Dr. and Mrs. Brent, the latter formerly Miss Helen Vogeler, are living at 2124 Maryland avenue.

THE next meeting of the Southern Medical Association will be held in Atlanta, Ga., on November 13 to 16, inclusive. The outstanding feature of the meeting will be the clinics every morning from 2 to 10 by visiting clinicians, men from different Southern cities. The officers of this asociation are Dr. Robert Wilson, Jr., of Charleston, S. C., president; Dr. Holman Taylor, Fort Worth, Tex., first vice-president; Dr. Guy L. Hunner of Baltimore, second vice-president, and Dr. Seale Harris of Birmingham, Ala., secretary and treasurer.

DR. AND MRS. GIDEON TIMBERLAKE are occupying the apartment they have leased at the Carlton, on University Parkway.

DR. WM. H. WELCH, Baltimore, professor of pathology at the Johns Hopkins Hospital University, has returned from Europe, where he went early in the summer to make an inspection of some of the most noted European hospitals in order to secure data for the new school

of hygiene and public health to be established at the Johns Hopkins University. While abroad Dr. Welch spent some time with Sir William Osler at Oxford, and also visited Dr. Joseph A. Blake at his hospital at Risorangis and Dr. Alexis Carrel, New York, at Compeigne.

THE Surgeon-General of the Army announces that preliminary examination for appointment of first lieutenants in the Army Medical Corps will be held early in January, 1917, at points to be hereafter designated.

Full information concerning this examination can be procured upon application to the "Surgeon-General, United States Army, Washington, D. C." The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, between 22 and 32 years of age at time of receiving commission in Medical Corps, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, of good moral character and habits, and shall have had at least one year's hospital training as an interne after graduation. Applicants who are serving this postgraduate interneship and can complete same before October 1, 1917, can take the January examination. The examination will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examination, applications should be forwarded without delay to the Surgeon-General of the Army.

There are at present 228 vacancies in the Medical Corps of the Army.

DEATHS.

ARISTIDE W. GIAMPIETRO, M.D., Tampa, Fla.; University of Maryland, Baltimore, 1907; aged 34; a member of the American Chemical Society; died in the Gordon Keller Hospital, Tampa, Fla., August 30, from pneumonia.

CHARLES H. WHITING (license, of Maryland); a practitioner for 49 years; a veteran of the Civil War; died in the University Hospital, Baltimore, September 11, from cerebral hemorrhage.

ELIJAH MILLER REED, M.D., Baltimore; University of Maryland, Baltimore, 1864; aged 72; formerly a member of the Medical and Chirurgical Faculty of Maryland and professor of nervous diseases and medical jurisprudence in Maryland Medical College, Baltimore; at one time officer of the medical corps of the army; died at his home, September 12, from cerebral hemorrhage.

AFTER making what his physicians think a most remarkable fight for life, Dr. Louis L. Lloyd, 639 West Franklin street, brother of Patrolman Charles J. Lloyd of the Northwestern Police District, and well-known physician, died shortly before 8 o'clock at the Maryland General Hospital.

Suffering from an obstruction of the intestines, Dr. Lloyd underwent two operations at the hospital. Dr. Lloyd was for years one of the most prominent athletes in the State. He was a member of the Baltimore Medical College football team, during a period in which it played against some of the strongest teams in the East and never tasted defeat. He was also a member of the old Baltimore Athletic Club crew which won race after race without being beaten, and on one occasion Dr. Lloyd rowed an entire race with a tendon in one of his legs broken.

DR. FRANK C. FERGUSON, a physician of South Baltimore, died suddenly at his home, 1230 South Charles street, from pleurisy. He became ill Saturday, but his condition was not considered serious.

Dr. Ferguson was born 37 years ago in Greenville, S. C., and came to Baltimore to study medicine. He was graduated from the University of Maryland in 1901 and has been practicing ever since. He is survived by his widow, Mrs. Edith Ferguson; his mother, Mrs. A. C. Ferguson of Greenville, and three sisters and two brothers, also of Greenville. The body will be taken to Greenville.

DR. R. W. CRAWFORD, son of the late R. W. Crawford and Mary E. Hendrick Crawford, died September 21 at Strasburg, Va. He was born near Strasburg, June 28, 1880. As a boy he attended the Misses Farrer's School, and then went to Pantope Academy near Charlottesville for two years. He received his bachelor of arts at Washington and Lee University and his diploma in medicine at the University of Maryland in 1906.

The relief department of the Atlantic Coast Line Railroad appointed him superintendent of its hospital in Rocky Mount, N. C., which position he held until promoted to be chief surgeon of the road, which was his title at his death, his offices being in Wilmington, N. C.

One sister, Miss Anne S. Crawford, survives him.

THE FACTOR OF POVERTY IN SANITATION.

THE factor of poverty in sanitary problems was discussed in Washington November 26 by Surgeon-General William C. Gorgas, whose success in cleaning up Havana and the Panama Canal Zone have brought him recognition as America's leading sanitarian. His audience was the Clinical Society of Surgeons, assembled in their twenty-fourth annual meeting. Dr. Gorgas said, in part:

"Such sanitary work as is necessary in the tropics is inexpensive, but measures directed against special diseases are not the greatest good that can be accomplished by sanitation.

"Before these great results that we can all now see are possible for the sanitarian, we shall have to alleviate more or less the poverty at present existing in all civilized communities. Poverty is the greatest of all breeders of disease and the stone wall against which every sanitarian must finally impinge.

"During the last 10 years of my sanitary work I have thought much on this subject. Of what practical measure could the modern sanitarian avail himself to alleviate the poverty of that class of our population which most needs sanitation? It is evident that this poverty is principally due to low wages: that low wages in modern communities are principally due to the fact that there are many more men competing for work than there are jobs to divide among these men. To alleviate this poverty two methods are possible, either a measure directed toward decreasing the number of men competing for jobs, or, on the other hand, measures directed toward increasing the number of jobs.

"The modern sanitarian can very easily decrease the number of men competing for jobs. If by next summer he should introduce infected stegomyia mosquitoes at a dozen different places in the Southern United States he could practically guarantee that when winter came we would have several million less persons competing for jobs in the United States than we have at present. This has been the method that man has been subject to for the last 6000 or 7000 years, but it does not appeal to me, nor, I believe, to yourselves. This method is at present being tried on a huge scale by means of the great war in Europe. I do not think that I risk much in predicting that when this war is over and we shall have eliminated 3,000,000 or 4,000,000 of the most vigorous workers in Europe, wages will rise and for a long time no man will be unable anywhere in Europe to get a job at pretty fair wages.

"But I am sure that every sanitarian would much rather adopt measures looking toward the increase of jobs rather than, as we have done in the past, submit to measures that decrease the number of competitors for jobs.

"I recently heard one of the members of the Cabinet state that in the United States 55 per cent. of the arable land, for one reason or another, is being held out of use. Now suppose in the United States we could put into effect some measure that would force this 55 per cent. of our arable land into use. The effect at once would be to double the number of jobs. If the jobs were doubled in number wages would be doubly increased. The only way I can think of forcing this unused land into use is a tax on land values.

"I therefore urge for your consideration, as the most important sanitary measure that can be at present devised, a tax on land values."

CLEAN HANDS.

Disease germs lead a hand-to-mouth existence. If the human race would learn to keep the unwashed hand away from the mouth, many human diseases would be greatly diminished. We handle infectious matter more or less constantly, and we continually carry the hands to the mouth. If the hand has recently been in contact with infectious matter, the germs of disease may in this way be introduced into the body. Many persons wet their fingers with saliva before counting money, turning the pages of a book or performing similar acts. In this case the process is reversed, the infection being carried to the object handled, there to await carriage to the mouth of some other careless person. In view of these facts the United States Public Health Service has formulated the following simple rules of personal hygiene, and recommends their adoption by every person in the United States: Wash the hands immediately before eating, before handling, preparing or serving food, after using the toilet, after attending the sick and after handling anything dirty.

FRAUDULENT INFANTILE PARALYSIS "CURES."

Officials of the Department of Agriculture charged with the enforcement of the Food and Drugs Act expect that the outbreak of infantile paralysis will tempt unscrupulous persons to offer for sale so-called "cures" or remedies for this dread malady. They, therefore, have issued special instructions to the food and drug inspectors to be particularly alert for interstate shipments or importations of medicines, the makers of which allege that they will cure or alleviate this disease, for which, at the present time, no medicinal cure is known. The officials also warn the public that any preparation put on the market and offered for sale as being effective for the treatment of infantile paralysis should be looked upon with extreme suspicion. Inspectors, accordingly, have been instructed to regard as suspicious, and to collect samples of, all medicines in interstate commerce for which such claims are made. Makers of such fraudulent remedies will be vigorously prosecuted whenever the evidence warrants action under the Sherley Amendment to the Food and Drugs Act. So-called remedies for infantile paralysis which are offered for import into the country will be denied entry.

The food and drugs officials are particularly watchful in this instance because it has been noted in the past that whenever a serious epidemic exists unscrupulous dealers prey upon the fear or ignorance of the public by floating the market with worthless, hastily prepared concoctions for which they assert curative properties which have no foundation whatever in fact. In the present instance inspectors already have discovered shipments of a few such mixtures.

The department will do everything it can under federal law to protect that portion of the public which is extremely credulous in times of panic and which will grasp at anything which promises protection or relief. The sale of such products at this time, the officials point out, is particularly threatening to the public health, because many persons, relying on the false statements of imposters, neglect to secure competent medical advice. As a result, not only is the safety of the patient endangered, but in the absence

of proper sanitary precautions, the likelihood of contagion is greatly increased.

It must be understood, however, that the Federal Food and Drugs Act applies only to products which are shipped in interstate commerce, that is, from one State to another, or which are offered for import or export, or which are manufactured or sold within a territory or the District of Columbia. Products which are made and consumed wholly within a single State are subject only to such State laws as may apply and are under the control only of State health officials. The federal law does not apply, for instance, to patent medicines made within the State of New York and sold in New York City. Persons buying or using a "remedy" made in their own State, therefore, must rely on the protection accorded them by their local health authorities.

RECREATION THE KEY TO HEALTH.

WHAT profiteth a man that he gain the whole world, yet lose his health?

Naturalists say that long ago the prehistoric waters were infested with a species of enormous shark which finally became extinct by reason of the workings of its voracious appetite. Thus nature eliminates the overfed.

The desire for ease of life and plentiful diet is universal, and is the great stimulus of man and animals alike. When man becomes greedy and takes more ease and food and drink than is his share, nature discards him.

In the race for power and place, for ease of circumstance and relief from the stimulus of hunger the modern man is apt to forget that unless he is careful of his body, he will soon be made to suffer for the infraction of nature's inexorable physical law. With the loss in body tone comes an equal loss in mental acuity, and the brain, which for a time was able to operate despite the complaints of an overfed, underexercised, self-poisoned body, stops working.

Statisticians have discovered that the mortality rate of persons in the United States over 45 years of age is increasing. The strenuous life of today is not alone responsible for this. Lack of health-giving exercise, superfluity of diet, lack of restoring sleep, overstimulation, the high pressure of the race for power, wealth and position plus physical neglect—these bring early decay. The goal is reached—wealth is amassed—honor, position and power are just being grasped when the apple of accomplishment turns to the ashes of dissolution. The brilliant mind becomes clouded, the steady hand is no longer accurate, the eye which once gazed fearlessly on the whole world is dimmed, and it is not long before the final breakup occurs. All of this was entirely preventable.

Other things being equal, it is the man who leads the well-balanced life who lasts the longest, whose work to the end is uniformly the best; he who neither overworks nor overplays, neither overeats, overdrinks nor oversleeps; he who maintains a standard of simple healthy diet in moderation, who offsets mental work with physical recreation, who is as honest with his own body as he is with his own business. When success comes to such an one, his physical and mental condition is such that he can

enjoy in peace of mind and contentment of body the fruits of his labors.

The regulations of the United States Public Health Service state: "It is the duty of officers to maintain their physical as well as their professional fitness. To this end they shall be allowed time for recreation and study whenever their official duties will permit." If the Government regards it as essential that its sanitary experts shall be safeguarded in this way, is it not equally important to every citizen that he similarly maintain a high standard of physical integrity?

CAROTID TUMOR.

A. M. Shipley and F. S. Lynn of Baltimore (*Journal A. M. A.*, May 20, 1916), report two cases of ligation of the common carotid, on account of their peculiarities and the rarity of the conditions existing. One was the removal of a carotid tumor in a young woman, aged 16, which was penetrated by the artery and internal jugular so that both were ligated above and below the mass removed. The patient made a good recovery and has had no recurrence after a lapse of five years. The authors review the literature of such operations and, though complete removal is hazardous, the growth of the tumor was entirely downward from the bifurcation from the common carotid and its removal was necessitated. The carotid body or gland was first described by Haller in 1743, and is related to the chromaffin system, and experiments show that its function is not important in itself. The second case reported was in a middle-aged woman who had suffered from increasing dyspnea, shortness of breath, difficulty in swallowing and an irritating cough. There was no external tumor, but the pharynx was well obstructed by a smooth pulsating mass which was diagnosed as an aneurism. The carotid was ligated and an uneventful recovery followed. The authors review the history of the operation for this cause and quote the directions given by Matas for the technic.

Uncle Sam's medical men in the Philippines have a curious problem to solve and are working it out with the usual American ingenuity with goods "made in the U. S. A." The Bureau of Health proposes to send vaccine virus to health stations in the far interior of various islands. The virus must be kept cold in a tropical climate. Ice is easy to secure anywhere on the coast. Travel into the interior is so rough that only coolies can cover the paths and carry the tubes of virus, but they cannot transport ice enough to properly keep it.

So the Bureau of Health has been planning to pack the tubes in ice in vacuum jars after the fashion of an ice-cream freezer.

The Icy-Hot Bottle Co. of Cincinnati has had inquiries from Manila, and suggests the use of wide-mouthed jars. In these ice can surround the tubes of virus, and, although the ice may melt before the journey's end, the water will keep cold a long time after. The Bureau of Health made a test in Manila and found that after 127 hours (over five days) the ice in the vacuum container had melted, but had risen only to 50 degrees Fahrenheit. The Government's plan is thus thoroughly practical, and doubtless vacuum bottles will have another chapter added to their usefulness.

AMERICA'S FIRST DUTY.

"The estimated economic loss which our nation suffers each year from typhoid fever and malaria alone aggregates $928,234,880, leaving out of entire account the sorrow, the unhappiness, the misery and the inefficiency which follow in their train." Senator Joseph E. Ransdell of Louisiana today addressed the Senate on the subject of "Rural Health—America's First Duty." "The greatest asset which our country can have," said Senator Ransdell, "is the healthy American citizen, and valuable as it may be to increase the health of livestock and vegetation, it is of far greater importance that we throw every possible safeguard about the health of the man who is responsible for that livestock and vegetation. Over $900,000,000 lost every year! A sum which is sufficient to put our country into a state of preparedness equal to that of any nation in the world, enough money to give us the largest navy afloat and the most efficient army which the world has ever seen, is annually offered up as a sacrifice to two diseases which are entirely preventable. Enough money to pay the annual expenses of every college student in the United States is absolutely thrown away every year." Senator Ransdell estimates the grand total loss from typhoid fever at $271,932,880 per annum, and the loss from malaria at $694,904,750 per year; the total per capita loss from these two diseases being $9.46. By comparative estimate it was shown that the United States Government appropriated $5,016,175 for the investigation and prevention of the diseases of animal and plant life, and only $1,917,566 for the investigation and prevention of the diseases of man.

GIVE THE BABY A CHANCE.

Bad air, bad milk, overcrowding, poverty, dirt, ignorance, heat—these combine in summer to kill the city baby. It seems as though the brunt of the cities' sanitary sins were focused on the baby. The baby didn't ask to come, to live in a hot, dark, air-tight tenement, to be fed on dirty, half-spoiled milk, to be pestered with flies and mosquitoes. He is not responsible for any of these conditions, and it is his right that he have fresh air, clean surroundings and decent food. The United States Public Health Service issues free of charge to all applicants a bulletin on "The Summer Care of Infants." It should be in the hands of every mother.

DO YOU KNOW THAT

One million two hundred thousand Americans die each year, it is estimated?

Heart disease, pneumonia and tuberculosis cause more than 30 per cent. of deaths?

Sickness lowers earning capacity?

The United States Public Health Service is the nation's first line of defense against disease?

Disease is the nation's greatest burden?

Sunlight and sanitation, not silks and satins, make better babies?

Low wages favor high disease rates?

A female fly lays an average of 120 eggs at a time?

Publishers' Department.

Danger Due to Substitution.

HARDLY another of all the preparations in existence offers a wider scope to imposition under the plea of "just as good" than the scientifically standardized Eucalyptol.

The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

A Widely Useful Soap.

THERE are a number of so-called antiseptic soaps. Probably the most generally serviceable of these is Germicidal Soap, formula by Dr. Charles T. McClintock, which has been not inaptly designated "the soap of a hundred uses," a soap made from pure vegetable oils and containing the powerful antiseptic mercuric iodide. As indicative of the germicidal power of this soap it may be said that a solution of it containing one part of mercuric iodide in five thousand parts of diluent will destroy pus organisms in less than five minutes. It is undoubtedly the most available antiseptic for the general practitioner. There are no solutions to carry. The soap is always ready for use. It does not stain linen or tarnish polished instruments.

Some of the uses to which Germicidal Soap is adapted are these: To prepare antiseptic solutions; to sterilize the hands, instruments and site of operation; to cleanse wounds, ulcers, etc.; to lubricate sounds, specula and catheters; to destroy infecting organisms in skin diseases; to disinfect surface lesions; to control itching in skin affections; to make solutions for the vaginal douche; to destroy offensive odors; to

cleanse the hair and scalp and remove and prevent dandruff; to disinfect vessels, utensils, etc.; to wash and sterilize bed linen used in the sickroom. It is apparent from the foregoing that the soap is at once an antiseptic, disinfectant, deodorant, sterilizer, lubricant and cleanser.

As most physicians probably know, Germicidal Soap McClintock, is manufactured by Parke, Davis & Co. It is supplied in two strengths, containing, respectively, one per cent. and two per cent. of mercuric iodine. It is well to specify "P., D. & Co." when ordering from the druggist.

of the individual cells. Thus, if the cells be stimulated to better assimilation and elimination, diseased states due to interference with these normal functions of the cellular constituents of the vital organs must of necessity undergo a change, for the underlying and continuing cause is being altered. The drugs usually employed for this purpose are those termed the alteratives, an efficient representative of which class is Iodia (Battle).

Iodia is a combination of iodide of potash with the active principles of the green roots of stillingia, helonias, saxifraga and menispermum. It has been found in severe clinical tests to exert an influence on the vital functions, the explanation of its favorable effect being sought for in the stimulating action of its several constituents on the normal processes of the body's cells. In chronic gout and rheumatism, glandular diseases and chronic affections of the skin Iodia will offer evidence of its therapeutic value.

Protection for Old People Against Bronchitis.

WITH the onset of winter, with its changeable weather, the old folks of reduced vitality and resistance begin to suffer from bronchial inflammations. Prevention in these conditions is better than cure, and prevention lies in the employment of those agents that will add to the patient's bodily strength and more narrowly the resistance of bronchial tissue to atmospheric disturbances with a consequent germ invasion. For this purpose Cord. Ext. Ol. Morrhuae Comp. (Hagee) has been found of the utmost value not alone for its therapeutic influence, but also by reason of the fact that it does not upset the stomach. Give it to your patients who suffer annually from bronchial attacks.

Autumnal Ailments.

THE autumn months constitute the season during which the average practicing physician is called upon to treat the following conditions: 1. Typhoid Fever, which is, more often than not, contracted at some unhygienic summer resort. The patient may return home during the first week or so with headache, malaise, etc., or the premonitory or primary symptoms may appear after reaching home. 2. Malarial Infection, in certain sections, which is more than usually rife in the spring and fall seasons. 3. The after-results of the gastro-intestinal disorders of infants and young children, due to improper feeding, etc., during the heated term. In almost every instance, when the acute symptoms have subsided, a condition of anemia and general devitalization is the final result that constitutes the essential indication for treatment. In convalescence from all forms of illness resulting in general debility Pepto-Mangan (Gude) is the one ideal tonic and reconstructive. It not only revitalizes the blood, but also tones up every physiologic function. It stimulates the appetite, improves the absorptive capacity, increases energy and ambition and restores the blood to its normal condition. It is, thus, a general tonic and reconstitnent of marked and certain value.

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